

01/13/06 Amendment

10/602,742

IN THE CLAIMS

1. (Previously presented) A process for the preparation of H_2O_2 , wherein a first stage, electrolysis converts H_2SO_4 into H_2 and $\text{H}_2\text{S}_2\text{O}_8$, and in a second stage, said $\text{H}_2\text{S}_2\text{O}_8$ reacts to form H_2O_2 and H_2SO_4 , wherein a membrane performs at least one selected from of a group consisting of: separation of said H_2 from said $\text{H}_2\text{S}_2\text{O}_8$, separation of said H_2 from said $\text{H}_2\text{S}_2\text{O}_8$ and said H_2SO_4 , separation of said H_2O_2 from said H_2SO_4 , separation of said H_2O_2 from said $\text{H}_2\text{S}_2\text{O}_8$, separation of said H_2O_2 and H_2O from said H_2SO_4 , separation of said H_2O_2 from said H_2SO_4 and said $\text{H}_2\text{S}_2\text{O}_8$, separation of said H_2O from H_2SO_4 , separation of said H_2SO_4 from said $\text{H}_2\text{S}_2\text{O}_8$ and any combination therein.
2. (Previously presented) The process of claim 1, wherein said H_2SO_4 and said $\text{H}_2\text{S}_2\text{O}_8$ is reacted with H_2O in the second stage.
3. (Previously presented) The process of claim 1, wherein said membrane comprises organic materials.
4. (Previously presented) The process of claim 1, wherein said membrane comprises inorganic materials.
5. (Previously presented) The process of claim 1, wherein said H_2SO_4 from said second stage is recycled to said first stage.
6. (Previously presented) The process of claim 1, wherein said electrolysis is performed across an electrically charged membrane.
7. Please cancel this claim.

01/13/06 Amendment

10/602,742

8. (Previously presented) The process of claim 7, wherein said electrodes comprise at least one selected from the group consisting of: zirconium, hastelloy, ceramic, titanium and any combination therein.

9. (Amended) The process of claim 1, further comprising a step of~~wherein at least one of said separation is performed with~~ distillation.

10. (Amended) The process of claim 9, wherein said distillation separates said H_2 from at least one of said H_2SO_4 and ~~[[/or]]~~ said $H_2S_2O_8$.

11. (Amended) The process of claim 9, wherein said distillation separates said H_2O_2 from at least one of said H_2SO_4 and ~~[[/or]]~~ said $H_2S_2O_8$.

12. (Amended) The process of claim 9, wherein said distillation separates said H_2O from at least one of said H_2SO_4 and ~~[[/or]]~~ said $H_2S_2O_8$.

13. (Previously presented) The process of claim 1, wherein said second stage contains an excess of said H_2O , and wherein
an aqueous concentration of said H_2O_2 is generated.

14. (Amended) The process of claim 1, further comprising the addition of~~wherein H_2O is added to said H_2O_2 from said second stage~~.

15. (Currently amended) The process of claim 1, wherein there is no vehicular transportation of said H_2O_2 .

16. (Previously presented) The process of claim 1, wherein said H_2 is utilized in a fuel cell to generate electricity.

01/13/06 Amendment

10/602,742

17. (Previously presented) The process of claim 16, wherein at least a portion of said electricity is used for the electrolytic conversion of said H_2SO_4 into said H_2 and said $\text{H}_2\text{S}_2\text{O}_8$.

Please cancel claims 18 through 34.